

In the Claims:

Please amend claims 1, 2, 16, and 20 as follows:

1. (currently amended) A method of forming a cover on a golf ball product comprising:

positioning a spherical uncovered golf ball product in the center of a mold, the mold having a spherical mold surface,

closing the mold around the golf ball product,

mixing a polyurethane prepolymer and a curing agent to form a thermoset reaction mixture,

injecting the reaction mixture into the mold to form a golf ball cover layer over [cover] the golf ball product therein,

allowing the reaction mixture to gel and form a golf ball,
and

opening the mold and removing the golf ball within about 10 to 60 seconds after the injecting step.

2. (currently amended) The method of claim 1 in which the spherical mold surface includes projections for forming dimples in the [cover of the] golf ball cover layer.

3. (original) The method of claim 1 in which said step of injecting the reaction mixture into the closed mold is performed within 0.5 to 10 seconds.

4. (previously presented) The method of claim 1 in which the polyurethane prepolymer has a viscosity of less than 1000 cps at 25° C.

5. (original) The method of claim 4 in which the curing agent has a viscosity of less than 2000 cps at 25° C.

6. (original) The method of claim 1 in which the curing agent has a viscosity of less than 2000 cps at 25° C.

7. (original) The method of claim 1 in which the uncovered golf ball product is a wound golf ball core.

8. (original) The method of claim 1 in which the uncovered golf ball product is a solid core.

9. (original) The method of claim 1 in which the uncovered golf ball product comprises a solid core and a mantle layer surrounding the core.

10. (original) The method of claim 1 in which the uncovered golf ball product comprises a solid core and a lattice structure over the core.

11. (original) The method of claim 1 in which the polyurethane prepolymer is selected from the class consisting of meta-toluene diisocyanate, 4,4'-diphenylmethane diisocyanate, pmdt, 3,3'-dimethyl-4,4'-biphenyl diisocyanate, naphthalene diisocyanate, and para-phenylene diisocyanate.

12. (original) The method of claim 1 in which the mold is opened and the golf ball is removed about 45 seconds after the injecting step.

13. (withdrawn) A method of forming a golf ball product comprising the steps of:

mixing a polyurethane prepolymer and a curing agent to form a thermoset reaction mixture,

injecting the reaction mixture into an empty mold having a cavity,

allowing the reaction mixture to gel and form a molded product, and
opening the mold and removing the molded product within about 10 to 60
seconds after the injecting step.

14. (withdrawn) The method of claim 13 in which said step of injecting the
reaction mixture into the closed mold is performed within 0.5 to 10 seconds.

15. (withdrawn) The method of claim 13 in which the mold cavity is spherical.

16. (currently amended) A method of producing a golf ball having a golf ball
cover layer including a polyurethane, said method comprising:

providing a first reactant which is an isocyanate;

providing a second reactant selected from the

group consisting of a polyol, a polyamine, and combinations thereof;

heating said first reactant to a temperature of from about 80° to about 130° F.;

heating said second reactant to a temperature of from about 80° to about 150° F.;

mixing said first reactant and said second reactant together;

providing a molding assembly defining a molded cavity and having a golf ball
component positioned within said molding cavity;

introducing said first reactant and said second reactant into said molding cavity;

and

molding a golf ball [forming a] cover layer about said golf ball component from
said first reactant and said second reactant, thereby producing said golf ball.

17. (previously presented) The method of claim 16 wherein said second
reactant is a polyol.

18. (previously presented) The method of claim 16 further comprising:

heating said molding assembly to a temperature of about 140° to 170° F.

19. (previously presented) The method of claim 16 further comprising:
adding a density-increasing filler to at least one of said first reactant and said second reactant.
20. (currently amended) A golf ball produced by the method comprising the steps of:
- providing a first reactant which is an isocyanate;
 - providing a second reactant selected from the group consisting of a polyol, a polyamine , and combinations thereof;
 - heating said first reactant to a temperature of from about 80° to about 130° F.;
 - heating said second reactant to a temperature of from about 80° to about 150° F.;
 - mixing said first reactant and said second reactant together;
 - providing a molding assembly defining a molding cavity and having a golf ball component positioned within said molding cavity;
 - introducing said first reactant and said second reactant into said molding cavity;
 - and
 - molding a golf ball [forming a] cover layer about said golf ball component from said first reactant and said second reactant, thereby producing said golf ball.